

AD-A073 182 ARMY ENVIRONMENTAL HYGIENE AGENCY ABERDEEN PROVING GR--ETC F/G 6/20  
TOPICAL HAZARD EVALUATION PROGRAM OF CANDIDATE INSECT REPELLENT--ETC(U)  
AUG 79 A W SINGER

UNCLASSIFIED

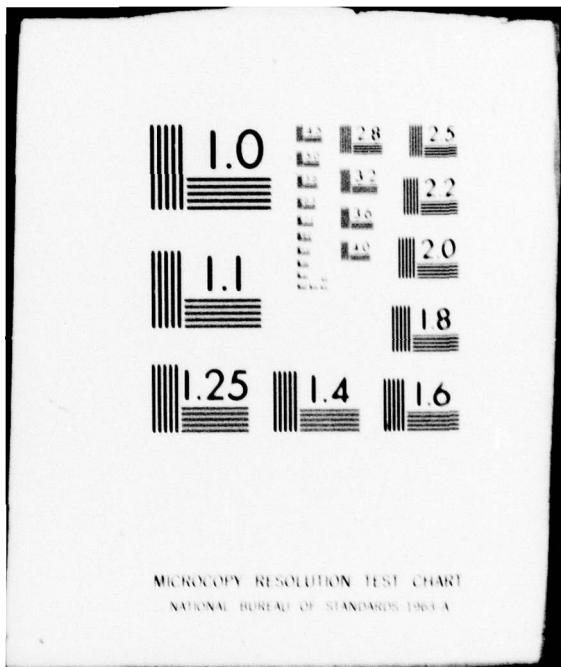
USAEEHA-75-51-0861-79

NL

| OF |  
AD A073 182



END  
DATE  
FILED  
9-79  
DDC





A  
E  
H  
A

ADA 073182

(2) M.S. LEVEL II

UNITED STATES ARMY  
ENVIRONMENTAL HYGIENE  
AGENCY

ABERDEEN PROVING GROUND, MD 21010

(6) TOPICAL HAZARD EVALUATION PROGRAM  
OF CANDIDATE INSECT REPELLENT AI3-36110  
= AURANTIOL  
STUDY NO. 75-51-0861-79  
MARCH 1976 - JUNE 1979.

(12) DPP

DDC FILE COPY

(9) Final rept., (11) 24 Aug 79

(10) Allen W. Singer

(14) USAEHA-75-51-0861-79

DDC  
APPROVED  
AUG 29 1979  
RELEASER  
A

Approved for public release; distribution unlimited.

038150

LB

79 08 28 058

Unclassified

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE			READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER 75-51-0861-79	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER	
4. TITLE (and Subtitle) Topical Hazard Evaluation Program of Candidate Insect Repellent AI3-36110, Aurantiol, Study No. 75-51-0861-79, March 1976 - June 1979		5. TYPE OF REPORT & PERIOD COVERED Final, Mar 76 - Jun 79	
7. AUTHOR(s)  ALLEN W. SINGER, CPT, VC		6. PERFORMING ORG. REPORT NUMBER	
8. PERFORMING ORGANIZATION NAME AND ADDRESS US Army Environmental Hygiene Agency Aberdeen Proving Ground, MD 21010		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS	
11. CONTROLLING OFFICE NAME AND ADDRESS Commander US Army Health Services Command Fort Sam Houston, TX 78234		12. REPORT DATE Mar 76 - Jun 79	
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office)		13. NUMBER OF PAGES 3	
		15. SECURITY CLASS. (of this report) Unclassified	
		16a. DECLASSIFICATION/DOWNGRADING SCHEDULE	
16. DISTRIBUTION STATEMENT (of this Report)  Approved for public release; distribution unlimited.			
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)			
18. SUPPLEMENTARY NOTES			
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) Aurantiol AI3-36110 Topical Hazard Evaluation skin irritation candidate repellent			
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) A hazard evaluation of candidate insect repellent AI3-36110 was performed by means of laboratory studies using New Zealand White rabbits. The technical grade compound was a viscous yellow liquid which stained the skin of all rabbits tested. As such, it is unsuitable for use on human skin.			



DEPARTMENT OF THE ARMY  
U. S. ARMY ENVIRONMENTAL HYGIENE AGENCY  
ABERDEEN PROVING GROUND, MARYLAND 21010

CPT Singer/jg/AUTOVON  
584-3980

HSE-LT-T/WP

24 AUG 1979

SUBJECT: Topical Hazard Evaluation Program of Candidate Insect Repellent  
AI3-36110, Aurantiol, Study No. 75-51-0861-79, March 1976 - June  
1979

Executive Secretary  
Armed Forces Pest Control Board  
Forest Glen Section, WRAMC  
Washington, DC 20012

A summary of the pertinent findings and recommendations of the inclosed report follows:

A hazard evaluation of candidate insect repellent AI3-36110 was performed by means of laboratory studies using New Zealand White rabbits. The technical grade compound was a viscous yellow liquid which stained the skin of all rabbits tested. As such, it is unsuitable for use on human skin. It was recommended that AI3-36110, Aurantiol, not be approved for further testing as a candidate insect repellent.

FOR THE COMMANDER:

BRENDAN E. JOYCE, Ph.D.  
LTC(P), MSC  
Director, Laboratory Services

CF:  
HQDA (DASG-PSP)  
Cdr, HSC (HSPA-P)  
Supt, AHS (HSA-IPM)  
USDA (Dr. Terrence McGovern)  
Dir, Advisory Ctr on TOX, NRC  
USDA, ARS, Southern Region

Accession For	
NTIS GRA&I	
DDC TAB	
Unannounced	
Justification	
By _____	
Distribution/	
Availability Codes	
Dist.	Avail and/or special

A



HSE-LT-T/WP

DEPARTMENT OF THE ARMY  
U. S. ARMY ENVIRONMENTAL HYGIENE AGENCY  
ABERDEEN PROVING GROUND, MARYLAND 21010

TOPICAL HAZARD EVALUATION PROGRAM  
OF CANDIDATE INSECT REPELLENT AI3-36110  
AURANTIOL  
STUDY NO. 75-51-0861-79  
MARCH 1976 - JUNE 1979

1. AUTHORITY.

a. Letter, US Department of Agriculture - Agricultural Research Service, Southern Region, Insects Affecting Man Research Laboratory, Gainesville, Florida, 11 March 1976.

b. Memorandum of Understanding between the Department of the Army; Office of The Surgeon General; the US Army Health Services Command; the US Army Environmental Hygiene Agency; the Armed Forces Pest Control Board; and the US Department of Agriculture, effective 1970 with Amendment No. 1, effective August 1974.

2. REFERENCE. Toxicology Division Procedural Guide, US Army Environmental Hygiene Agency (USAEEHA), 1972, revised 1976.

3. PURPOSE. The purpose of this program is to provide guidance for further entomological testing of the candidate insect repellent AI3-36110.

4. SUMMARY OF FINDINGS. A hazard evaluation of the candidate insect repellent AI3-36110, Aurantiol, was conducted by this Agency using New Zealand White rabbits for a skin study. A tabular presentation of animal toxicity data developed in this Agency follows:<sup>\*†</sup>

\* In conducting the studies described in this report, the investigators adhered to the "Guide for the Care and Use of Laboratory Animals," US Department of Health, Education, and Welfare Publication No. (NIH) 74-23, revised 1978.

† The experiments reported herein were performed in animal facilities fully accredited by the American Association for Accreditation of Laboratory Animal Care.

Approved for public release; distribution unlimited.

Study No. 75-51-0861-79, Mar 76 - Jun 79

Test	Results	Interpretation
<b>SKIN IRRITATION STUDIES</b>		
<b>Rabbits</b>		
Single 24-hour application to intact and abraded skin of New Zealand White rabbits.	Compound AI3-36110 caused a yellow stain on all rabbits. Stain may have masked erythema and thus was impossible to grade skin irritation properly.	USAEHA Category V staining properties make this compound unsuitable for use on humans. (ref Appendix)
0.5 ml of technical grade compound applied ... .. to each of six rabbits.		

5. CONCLUSION. The candidate repellent AI3-36110 has a potential for staining the skin yellow and would be unsuitable for use as an insect repellent.

6. RECOMMENDATION. Under the provisions of the Memorandum of Understanding (paragraph 1b), it is recommended that AI3-36110, Aurantiol, not be approved for further testing as a candidate insect repellent.

*Allen W. Singer*

ALLEN W. SINGER  
CPT, VC  
General Veterinary Officer  
Toxicology Division

APPROVED:

*Arthur H. McCresh*

ARTHUR H. MCCREESH, Ph.D.  
Chief, Toxicology Division

TOPICAL HAZARD EVALUATION PROGRAM  
DEFINITIONS OF CATEGORIES OF COMPOUNDS BEING  
CONSIDERED FOR ACUTE SKIN APPLICATION

CATEGORY I - Compounds producing no primary irritation of the intact skin or no greater than mild primary irritation of the skin surrounding an abrasion. (INTERPRETATION: No restriction for acute application to the human skin.)

CATEGORY II - Compounds producing mild primary irritation of the intact skin and the skin surrounding an abrasion. (INTERPRETATION: Should be used only on human skin found by examination to have no abrasions or may be used as a clothing impregnant.)

CATEGORY III - Compounds producing moderate primary irritation of the intact skin and the skin surrounding an abrasion. (INTERPRETATION: Should not be used directly on the skin without a prophetic patch test having been conducted on humans to determine irritation potential to human skin. May be used without patch testing, with extreme caution, as clothing impregnants. Compound should be resubmitted in the form and at the intended use concentration so that its irritation potential can be reexamined using other test techniques on animals.)

CATEGORY IV - Compounds producing moderate to severe primary irritation of the intact skin and of the skin surrounding an abrasion and, in addition, producing necrosis, vesiculation, and/or eschars. (INTERPRETATION: Should be resubmitted for testing in the form and at the intended use concentration. Upon resubmission, its irritation potential will be reexamined using other test techniques on animals, prior to possible prophetic patch testing in humans, at concentrations which have been shown not to produce primary irritation in animals.)

CATEGORY V - Compounds impossible to classify because of staining of the skin or other masking effects owing to physical properties of the compound. (INTERPRETATION: Not suitable for use on humans.)

EYE CATEGORIES:

A. Compounds noninjurious to the eye. INTERPRETATION: Irritation of human eyes is not expected if the compound should accidentally get into the eyes, provided it is washed out as soon as possible.

B. Compounds producing mild injury to the cornea. INTERPRETATION: Should be used with caution around the eyes.

C. Compounds producing mild injury to the cornea, and in addition some injury to the conjunctiva. INTERPRETATION: Should be used with caution around the eyes and mucosa.

D. Compounds producing moderate injury to the cornea. INTERPRETATION: Should be used with extreme caution around the eyes.

E. Compounds producing moderate injury to the cornea, and in addition producing some injury to the conjunctiva. INTERPRETATION: Should be used with extreme caution around the eyes and mucosa.

F. Compounds producing severe injury to the cornea and to the conjunctiva. INTERPRETATION: Should be used with extreme caution. It is recommended that use be restricted to areas other than the face.